



SEMESTRAL

UNI

academiacesarvallejo.edu.pe

— ACADEMIA —
CÉSAR
VALLEJO

— ACADEMIA —
CÉSAR
VALLEJO

— ACADEMIA —
CÉSAR
VALLEJO

— ACADEMIA —
CÉSAR
VALLEJO

SEMESTRAL
UNI

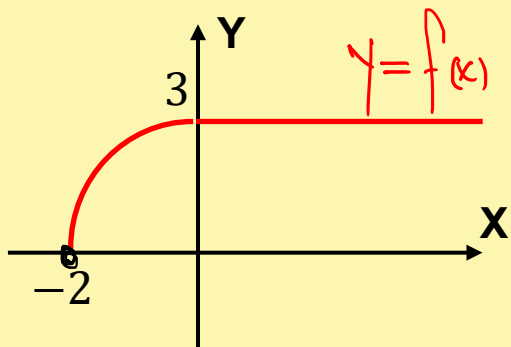


Álgebra

Tema: Gráfica de funciones III

Docente: PHFLUCKER H. COZ

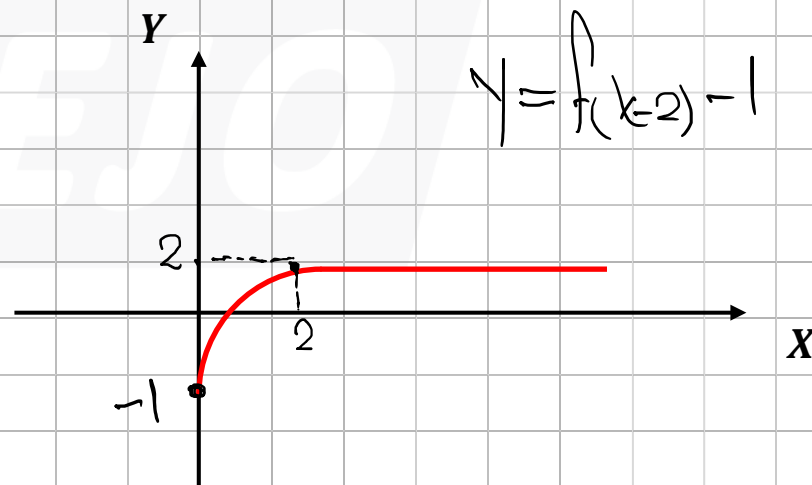
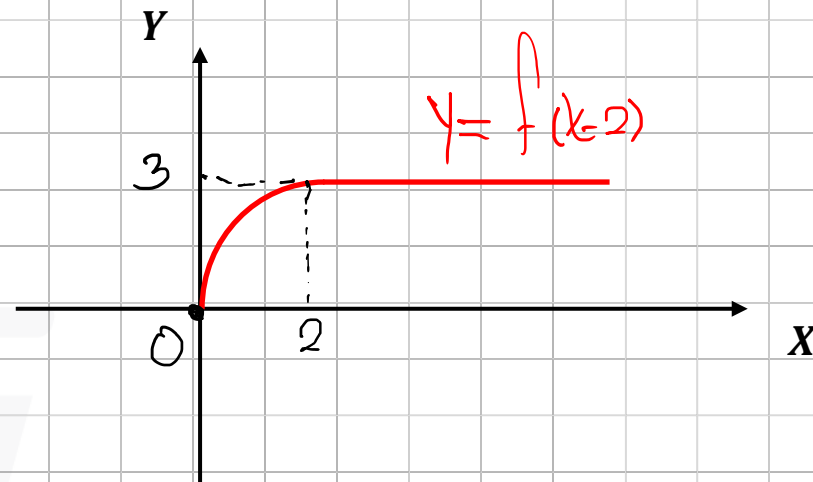
1. Sea la gráfica de la función f



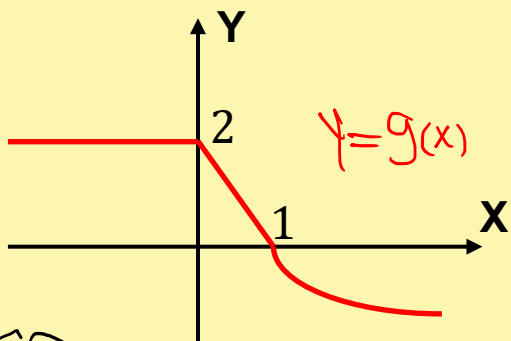
Grafique $f(x - 2) - 1$

Resolución

Graficando $y = f(x-2)$



2. Si la gráfica de $g(x) = f(x - 1) + 1$ es la gráfica adjunta.



Grafique $f(x)$

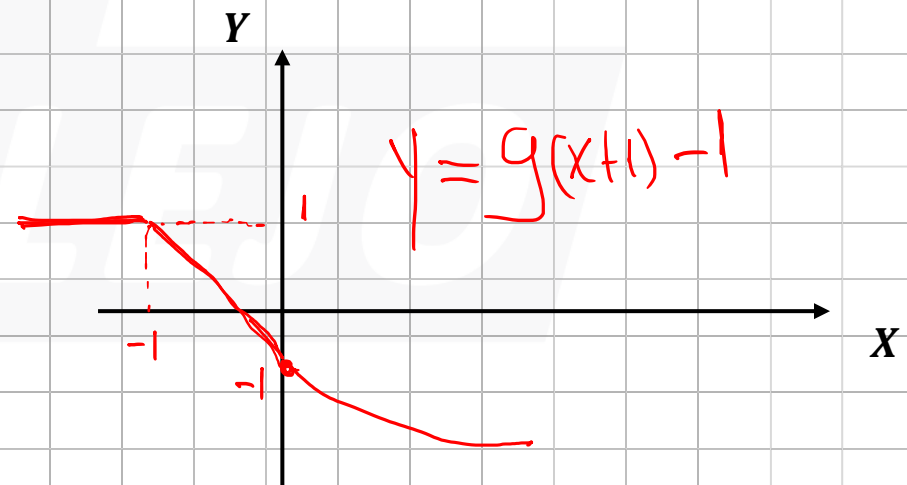
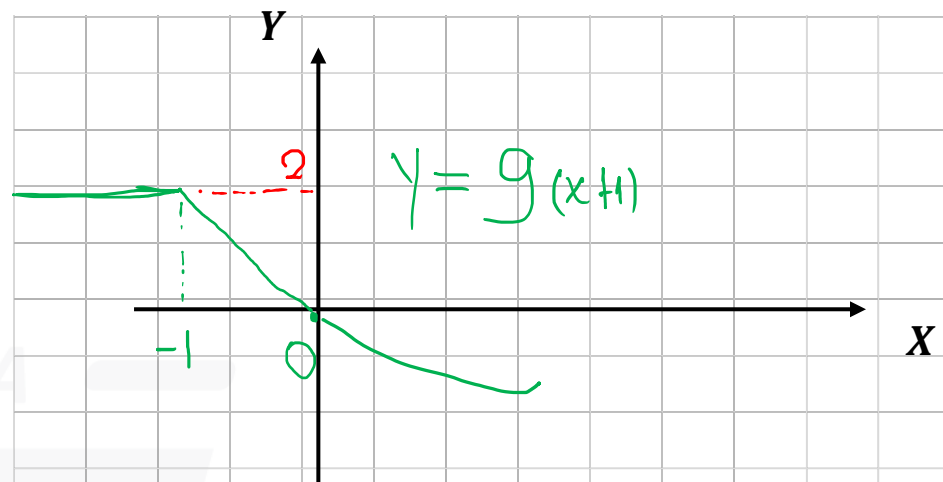
Resolución

Dato: $f(x-1) + 1 = g(x)$

$$f(x-1) = g(x) - 1$$

$\downarrow$ $\downarrow$
 $x+1$ $x+1$

$$\Rightarrow f(x) = g(x+1) - 1$$

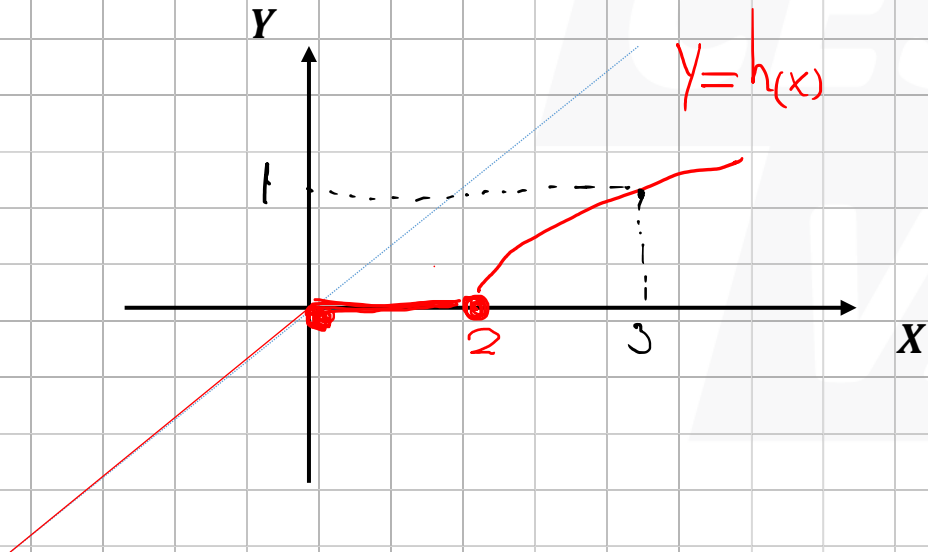


3. Sea la función h donde:

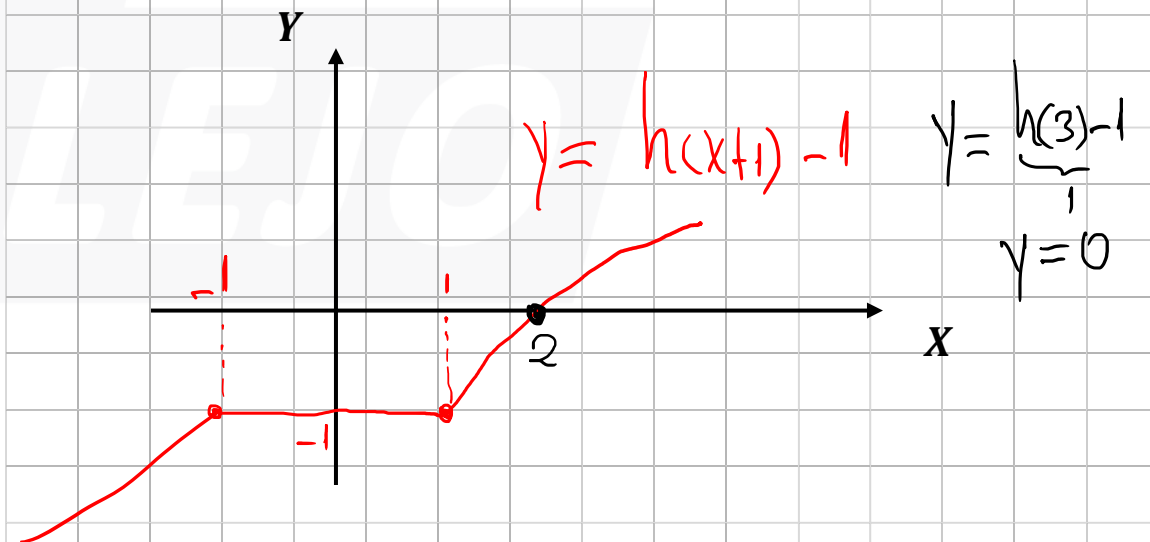
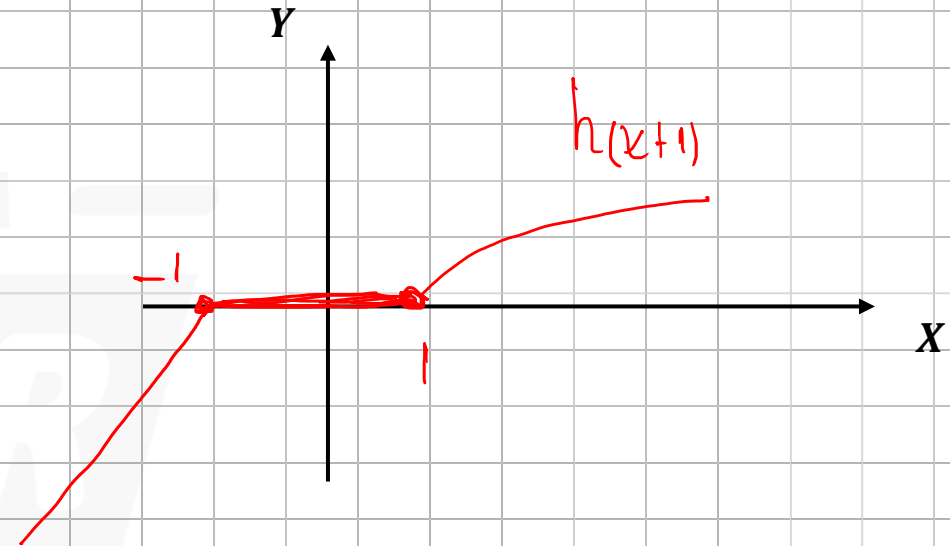
$$h(x) = \begin{cases} x; & x < 0 \\ 0; & 0 \leq x < 2 \\ \sqrt{x-2}; & x \geq 2 \end{cases}$$

Grafique $h(x+1) - 1$ externa

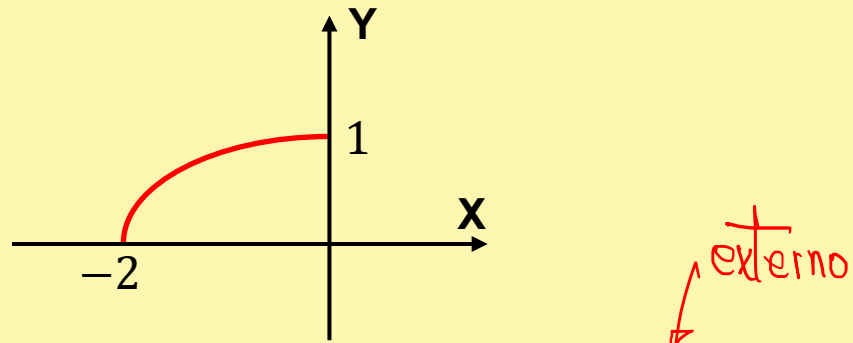
Resolución



Graficando $h(x+1)$



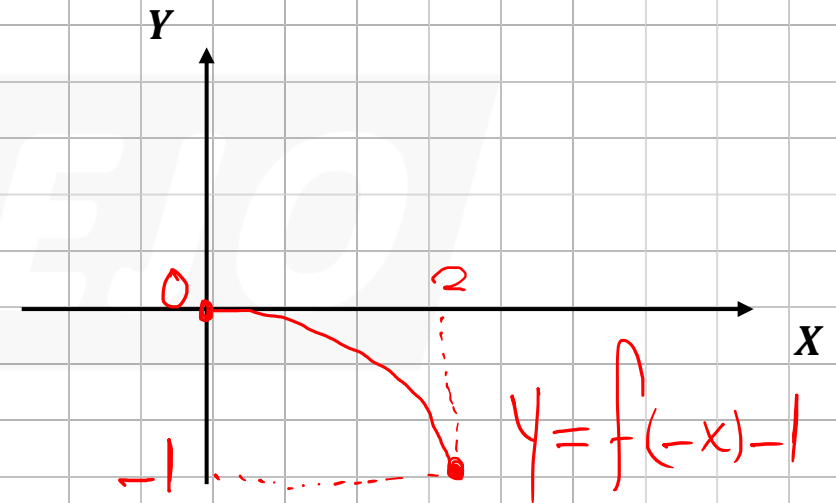
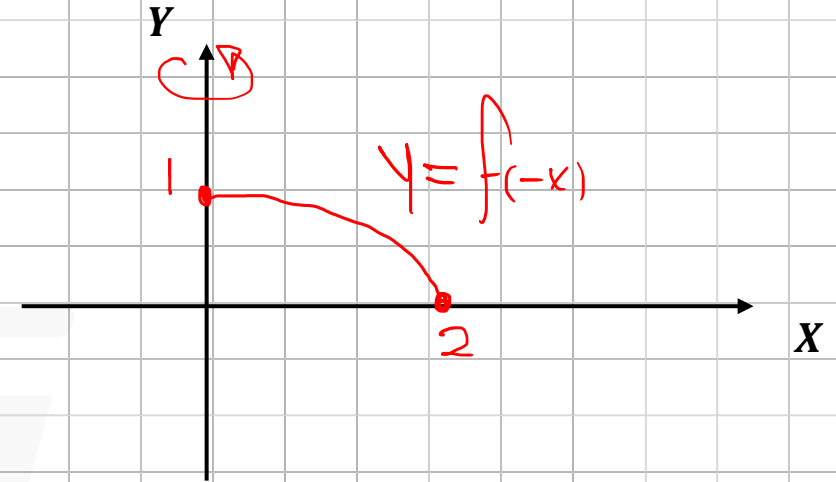
4. Dado el gráfico de $F(x)$



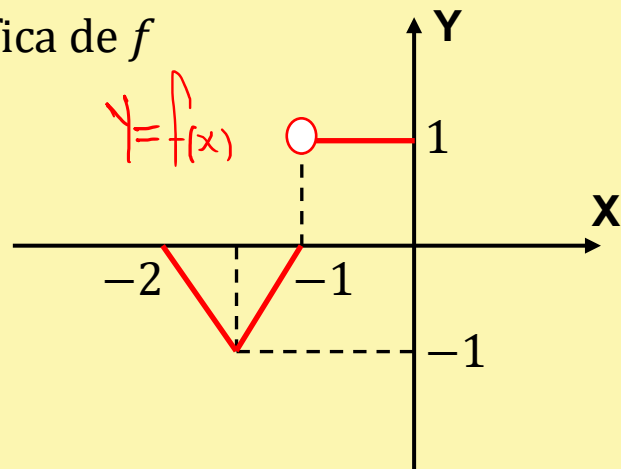
Indicar el gráfico de $H(x) = F(-x) - 1$

Resolución

hallando la gráfica de $f(-x)$.

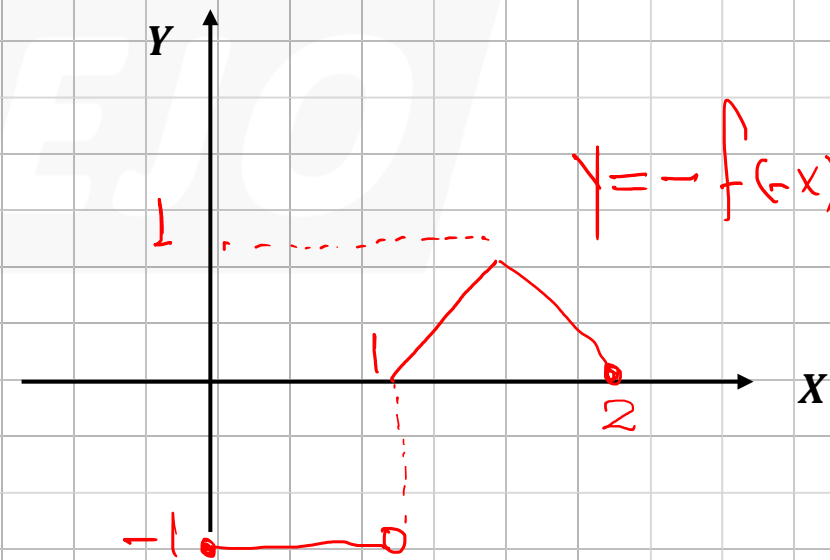
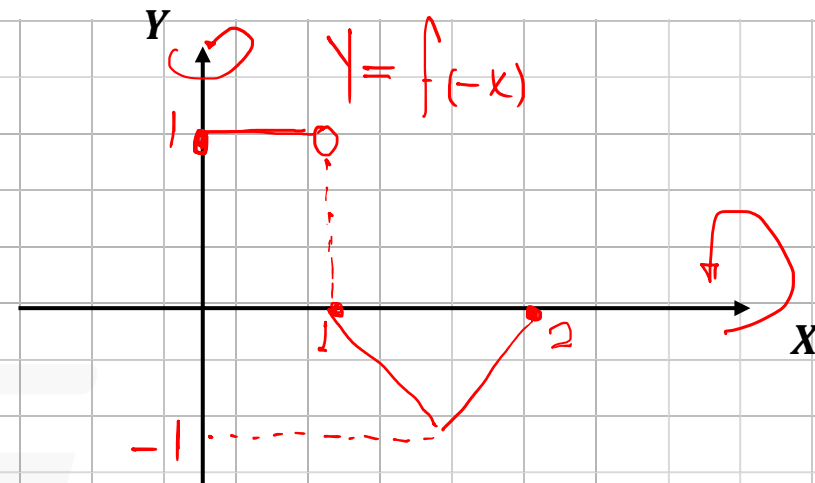
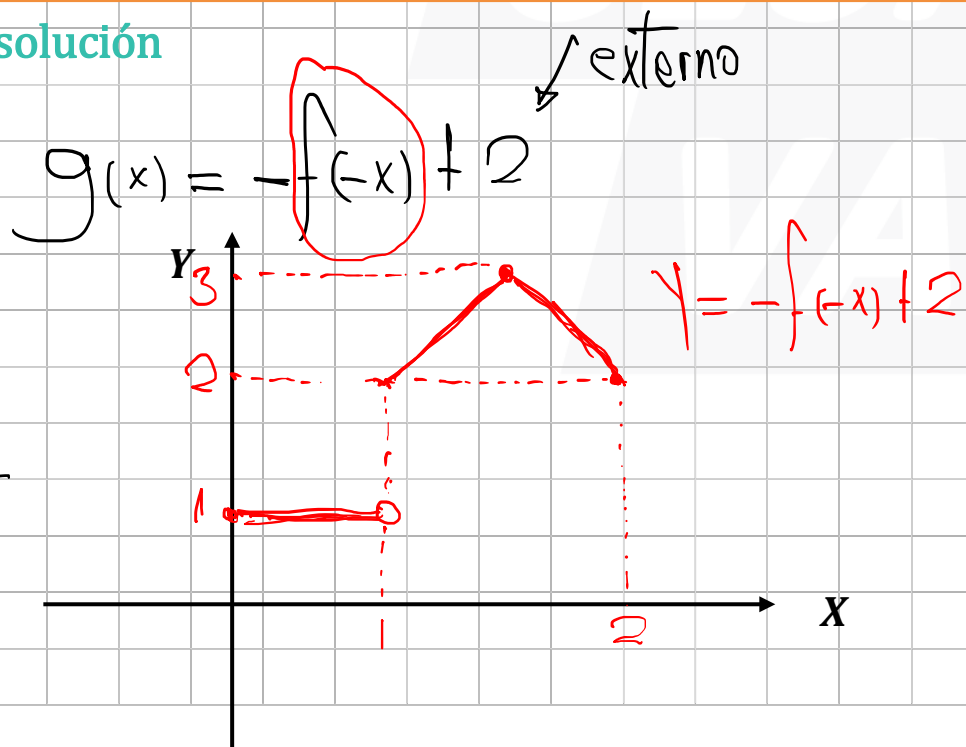


5. Dada la gráfica de f



Represente la gráfica de $g(x) = 2 - f(-x)$

Resolución



6. Esboce la función h donde

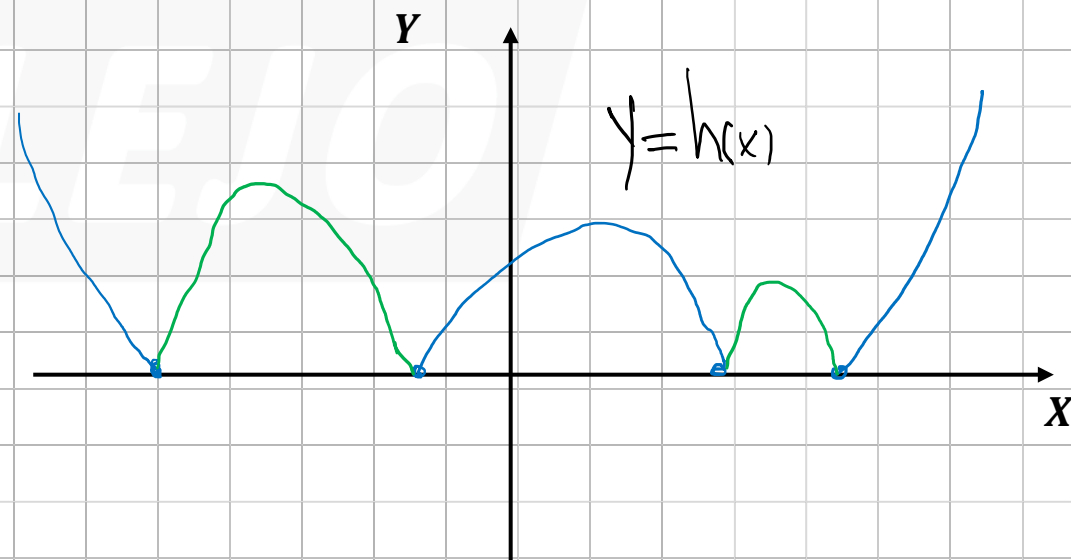
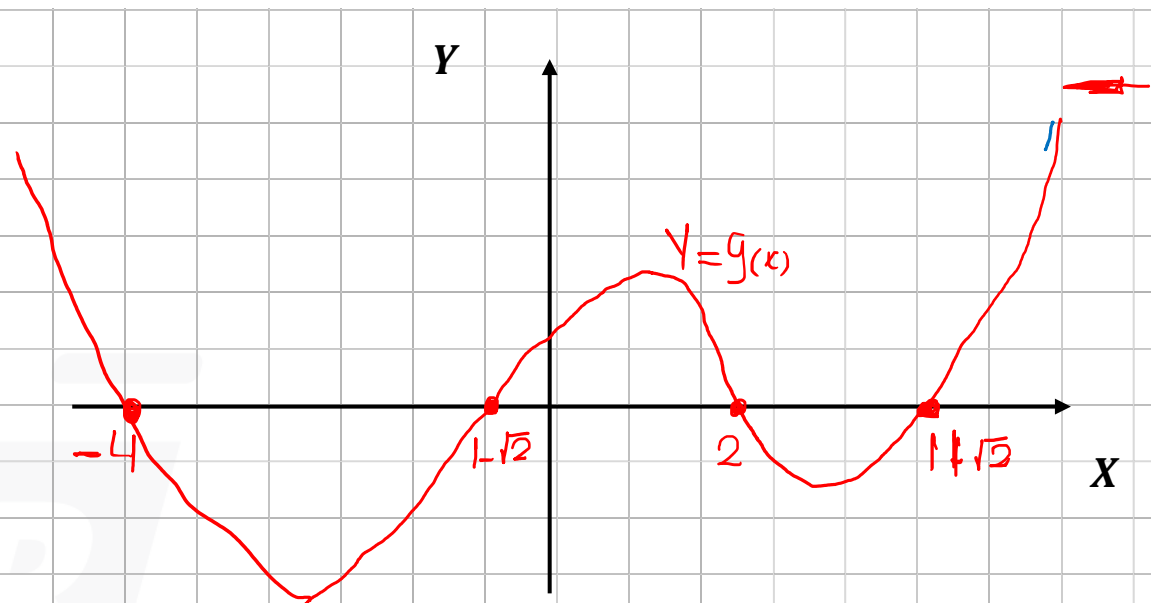
$$h(x) = |(x+4)(x^2-2x-1)(2-x)|$$

Resolución

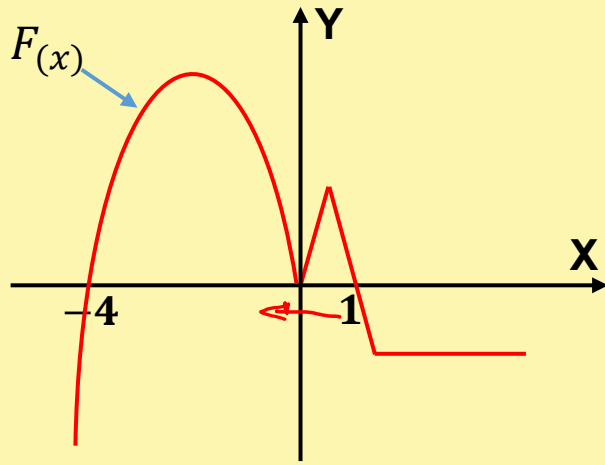
$$h(x) = |(x+4)(x-2)(x^2-2x-1)|$$

$$h(x) = |(x+4)(x-2)(x^2-2x-1)|$$

Sea $g(x) = \underbrace{(x+4)}_{x_1=-4} \underbrace{(x-2)}_{x_2=2} \underbrace{(x^2-2x-1)}_{x_{3,4}=1\pm\sqrt{2}}$



7. Grafique $|F_{(1-|x|)}|$, donde

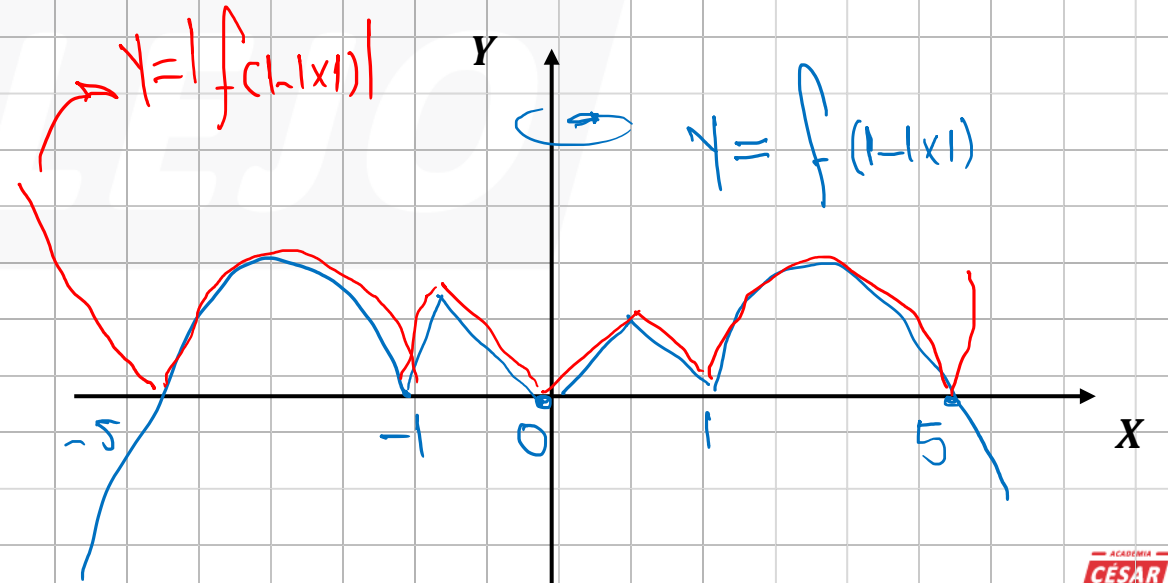
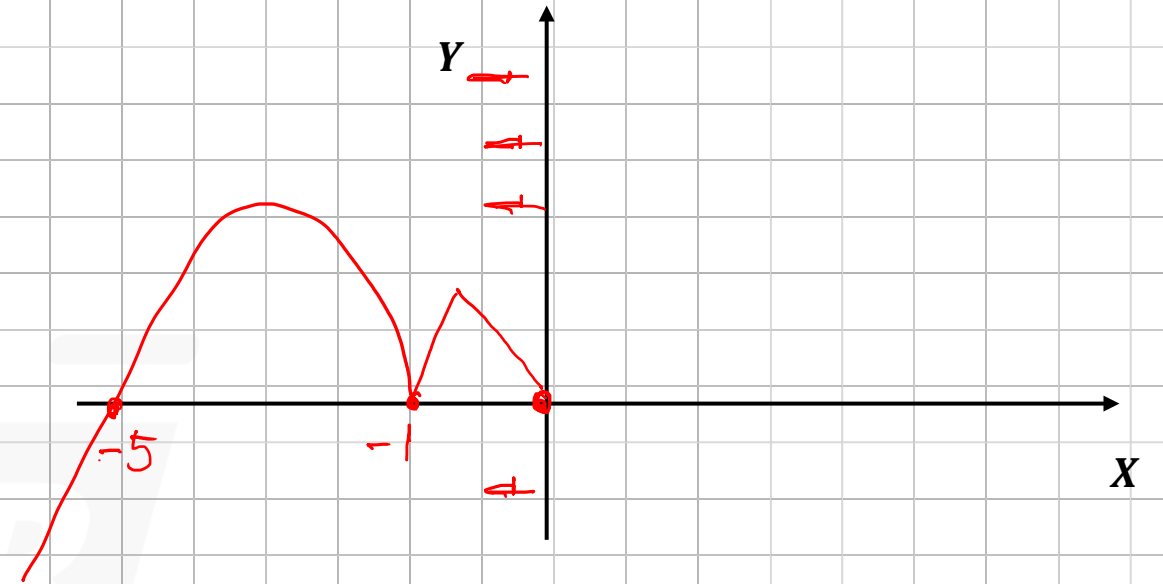


Resolución

$$f(-|x|+1)$$

Como es par $\Rightarrow$ analizar cuando $x \leq 0$

$$\text{o sea } f(x+1) \text{ para } x \leq 0$$



8. Sea la ecuación $\sqrt{\left(\frac{2x+4}{x-1}\right)^2} = |x| - 3$

Indique la cantidad de soluciones

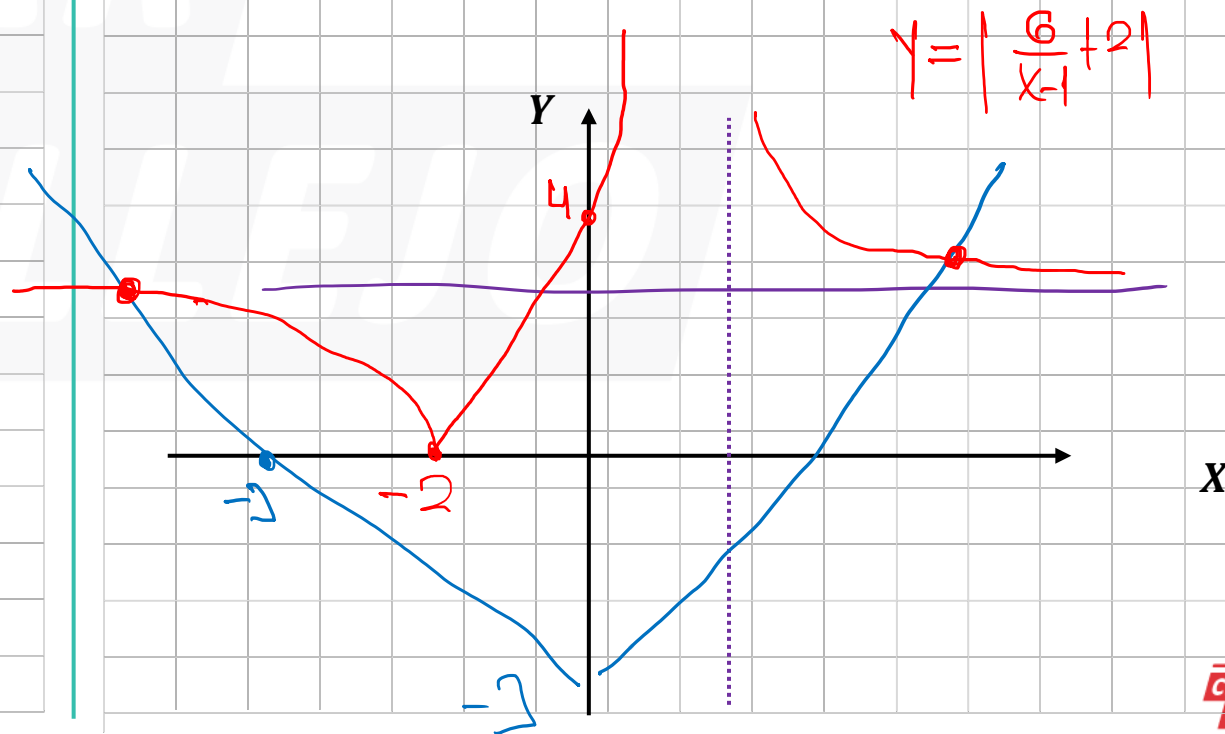
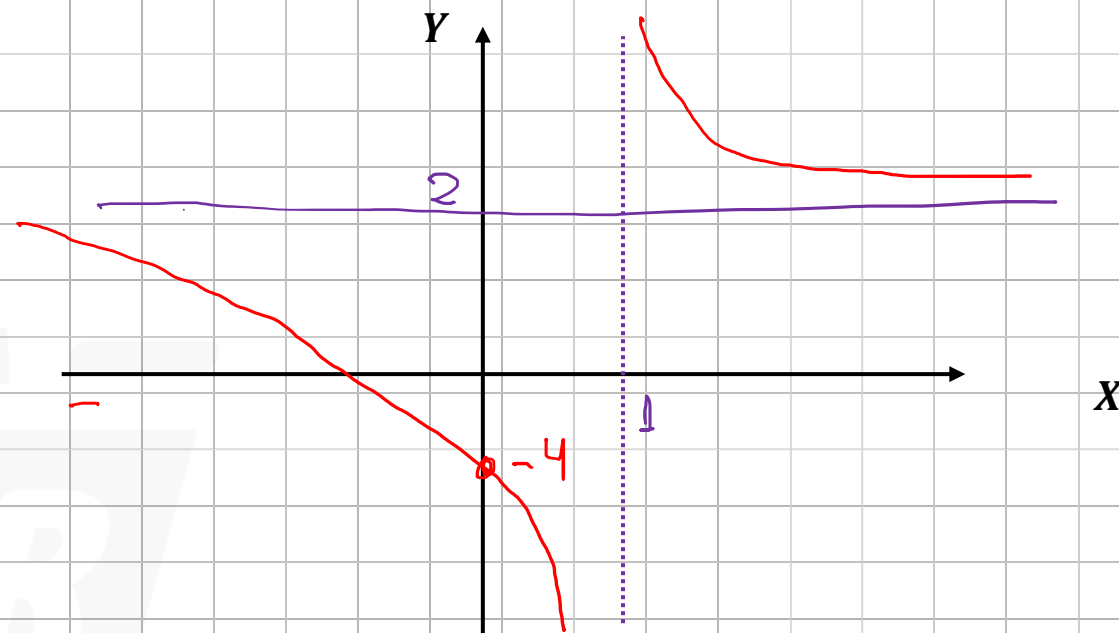
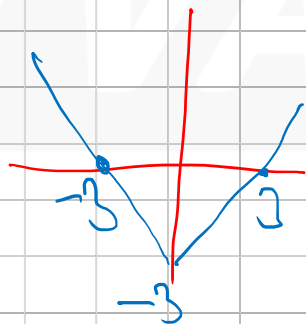
- A) 1 B) 2 C) 3 D) 4 E) 5

Resolución

$$\left| \frac{2x+4}{x-1} - 2 \right| = |x| - 3$$

$$\left| \frac{6}{x-1} + 2 \right| = |x| - 3$$

asíntota
horizontal



9. Indicar si es verdadero (V) o falso (F) según corresponda.

I. Si $f(x) = \frac{x^3}{x^2}$ y $g(x) = x$ entonces f y g son iguales.

II. Si $f(x) = |x - 1|$ y $g(x) = \begin{cases} x - 1; x \geq 1 \\ 1 - x; x < 1 \end{cases}$ entonces son iguales.

III. Si $f(x) = |x|$ y $g(x) = x \cdot \text{sgn}(x)$ entonces son iguales.

A) VVF

B) VVV

C) VFF

D) FVV

E) FFV

Resolución

$$I) D_f = \mathbb{R} - \{0\} \quad D_g = \mathbb{R}$$

$$II) f(x) = \begin{cases} x-1 \\ 1-x \end{cases}; \quad \begin{cases} x-1 \geq 0 \\ x \geq 1 \end{cases}$$

$$; \quad \begin{cases} x-1 < 0 \\ x < 1 \end{cases}$$

$$D_f = D_g$$

— ACADEMIA —

CÉSAR

VALLEJO

GRACIAS

SÍGUENOS:   

academiacesarvallejo.edu.pe